


PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional) 057810-0088	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or Printed Name _____		Application Number 10/790,759	Filed March 03, 2004
		First Named Inventor Eiji MARUYAMA	
		Art Unit 1795	Examiner Golam Mowla
<p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p>			
I am the <input type="checkbox"/> applicant/inventor. <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) <input checked="" type="checkbox"/> attorney or agent of record. Registration number L00,295 <input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____		<div style="text-align: center;">  _____ Signature </div> <div style="text-align: center;"> Hosang Lee _____ Typed or printed name </div> <div style="text-align: center;"> 202.756.8063 _____ Telephone number </div> <div style="text-align: center;"> October 19, 2009 _____ Date </div>	
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.			
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.			

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	Customer Number: 20277
Eiji MARUYAMA	:	Confirmation Number: 2908
Application No.: 10/790,759	:	Tech Center Art Unit: 1795
Filed: March 03, 2004	:	Examiner: Golam Mowla
For: PHOTOVOLTAIC DEVICE AND DEVICE HAVING TRANSPARENT CONDUCTIVE FILM		

REMARKS FOR PRE-APPEAL CONFERENCE

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Claims 8-11, 14 and 19-20 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

The Examiner asserted that the claim language “ratio of the intensity (I1) of said first peak to the intensity (I2) of said second peak is at least 0.48” is not supported by the original disclosure as filed. It is respectfully submitted that the Examiner’s assertion is incorrect. FIG. 6 of the application-as-filed illustrates that the cell output (Pmax), which is represented by a square mark “□,” varies according to change of the peak intensity ratio (I1/I2), which is the ratio of the intensity (I1) of the first peak to the intensity (I2) of the second peak. FIG. 6 clearly discloses that the photovoltaic device generates the maximum cell output Pmax approximately at the intensity ratio (I1/I2) is 0.48. This disclosure in FIG. 6 supports the claim language “ratio of the intensity (I1) of said first peak to the intensity (I2) of said second peak is at least 0.48”

Claims 8-11, 14, and 19-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Neerinck et al. ("Depth profiling of thin ITO films by grazing incidence X-ray diffraction" - Thin Solid Films 278 (1996) pp12-17, hereinafter "Neerinck"), and further in view of Adurodija et al. ("Effect of Sn doping on the electronic transport mechanism of indium-tin-oxide films grown by pulsed laser deposition coupled with substrate irradiation" - J. Appl. Phys. 88 (2000) pp 4175-4180, hereinafter "Adurodija").

The Examiner acknowledged that AAPA does not disclose "an indium oxide layer having (222) plane orientation with two (222) peaks in said indium oxide layer, wherein said two (222) peaks includes a first peak having an intensity (I1) and a second peak having an intensity (I2) and the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is at least 0.48 and around 0.5." The Examiner, however, referred to Neerinck as disclosing "an indium oxide layer having (222) plane orientation with two (222) peaks in said indium oxide layer, wherein said two (222) peaks includes a first peak having an intensity (I1) and a second peak having an intensity (I2) and the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is at least 0.48 and around 0.5."

Neerinck purports to show how intensity of the peak of the ITO film changes as the incidental angle ω changes. As disclosed in FIG. 2, the ITO film may have one peak or two peaks depending on the value of the incidental angle ω . Neerinck shows only one case when the ITO film has two peaks (see FIG. 1). When the ITO film has two peaks, the intensity of the first peak is 2.5 and the intensity of the second peak is 5.5, so the intensity ratio of the first peak to the second peak is $2.5/5.5=0.4545$, as the Examiner asserted. Neerinck's intensity ratio of the two

peaks (0.4545) does not fall within the range of the intensity ratio as required by claim 8, that is "at least 0.48 and 0.5."

The Examiner further maintained that, since the peak intensity (I_1 or I_2) increases with increase of the incidental angle ω , the intensity ratio (I_1/I_2) can be easily varied in the range as required by claim 8. What is controlled by changing the value of the incidental angle ω is not the relative intensity ratio of the first peak intensity (I_1) to the second peak intensity (I_2), but the number of peaks. As disclosed in Neerinck's FIGS. 1-2, change of the incidental angle neither control the values of the peak intensity, nor intensity ratio between the first peak and the second peak when the two peaks exist. Thus, the Examiner's assertion that the intensity ratio of two peaks can be optimized by controlling value of the incidental angle ω is without any ground.

In contrast, as disclosed in FIG. 6 of the application-as-filed, the intensity ratio (I_1/I_2) of the first peak to the second peak influences the generation of the cell output of the photovoltaic device. Thus, the cell output P_{max} can be controlled by changing the intensity ratio (I_1/I_2), and the photovoltaic devices generates the maximum cell output P_{max} approximately at the intensity ratio (I_1/I_2) of at least 0.48 and around 0.5.

In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to discharge the initial burden by, *inter alia*, making "**clear and particular**" factual findings as to a **specific understanding** or **specific technological principle** which would have **realistically** impelled one having ordinary skill in the art to modify an applied reference to arrive at the claimed invention based upon facts, -- not generalizations. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 57 USPQ2d 1161 (Fed. Cir. 2000); *Ecolochem Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab, supra*; *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). That burden has not been discharged, as the Examiner has

provided no factual basis for modifying Neerinck's disclosure to provide "an indium oxide layer having (222) plane orientation with two (222) peaks, wherein said two (222) peaks includes a first peak having an intensity (I1) and a second peak having an intensity (I2) and the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is **at least 0.48 and around 0.5.**"

Thus, since Adurodija fails to cure deficiencies of Neerinck and AAPA, the combination of AAPA, Neerinck and Adurodija fails to teach "an indium oxide layer having (222) plane orientation with two (222) peaks in said indium oxide layer, wherein said two (222) peaks includes a first peak having an intensity (I1) and a second peak having an intensity (I2) and the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is at least 0.48 and around 0.5," as required by claim 8. Therefore, claim 8 is patentable over the combination of AAPA, Neerinck and Adurodija.

The dependent claims are allowable for at least the same reasons as the independent claims from which they depend and further distinguish the claimed apparatus and method.

Withdrawal of the rejections and allowance of the application are believed to be appropriate and respectfully solicited.

Respectfully submitted,

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